

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

- 1.-2. (Canceled)
3. (Currently amended) An isolated polynucleotide encoding a polypeptide selected from the group consisting of:
 - a) a polypeptide comprising the ~~[[a]]~~ amino acid sequence of SEQ ID NO:2,
 - b) a polypeptide comprising an amino acid sequence that is at least 90% identical to the ~~[[a]]~~ amino acid sequence of SEQ ID NO:2, wherein the said polypeptide has ~~having~~ thioredoxin activity,
 - c) a biologically active fragment of a polypeptide that has the ~~having an~~ amino acid sequence of SEQ ID NO:2, wherein the said fragment has ~~having~~ thioredoxin activity, and
 - d) an immunogenic fragment of a polypeptide that has the ~~having an~~ amino acid sequence of SEQ ID NO:2, which may be used for the production of an antibody that binds to the ~~[[a]]~~ polypeptide of SEQ ID NO:2.
4. (Currently amended) An isolated polynucleotide of claim 3 encoding a polypeptide comprising the ~~[[a]]~~ amino acid sequence of SEQ ID NO:2.
5. (Original) An isolated polynucleotide of claim 4 comprising SEQ ID NO:4.
6. (Original) A recombinant polynucleotide comprising a promoter sequence operably linked to a polynucleotide of claim 3.
7. (Original) A cell transformed with a recombinant polynucleotide of claim 6.
8. (Canceled)
9. (Currently amended) A method of producing a polypeptide of claim 3, the method comprising:

a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide encoding the polypeptide of claim 3, and

b) recovering the expressed polypeptide ~~so expressed~~.

10. (Canceled)

11. (Currently amended) An isolated polynucleotide selected from the group consisting of:

a) a polynucleotide comprising the ~~the~~ ~~[[a]]~~ polynucleotide sequence of SEQ ID NO:4,

b) a polynucleotide, which encodes a polypeptide with thioredoxin activity, comprising a polynucleotide sequence that is at least 90% identical to the ~~the~~ ~~[[a]]~~ polynucleotide sequence depicted in ~~in~~ ~~[[of]]~~ SEQ ID NO:4, ~~and which encodes a polypeptide having thioredoxin activity,~~

c) a polynucleotide that is completely complementary to a polynucleotide of a),

d) a polynucleotide that is completely complementary to a polynucleotide of b), and

e) an RNA equivalent of a)-d).

12. (Currently amended) An isolated polynucleotide probe, for detecting the complete complement of the polynucleotide of claim 11, comprising at least 60 contiguous nucleotides of a polynucleotide of claim 11, ~~and which may be used to detect the complete complement of a polynucleotide of claim 11.~~

13. (Withdrawn) A method of detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 11, the method comprising:

a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and

b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

14. (Withdrawn) A method of claim 13, wherein the probe comprises at least 60 contiguous nucleotides.

15. (Withdrawn) A method of detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 11, the method comprising:

a) amplifying said target polynucleotide or fragment thereof using polymerase chain reaction amplification, and

b) detecting the presence or absence of said amplified target polynucleotide or fragment thereof, and, optionally, if present, the amount thereof.

16. (Withdrawn) A composition comprising a polypeptide of claim 1 and a pharmaceutically acceptable excipient.

17. (Withdrawn) A composition of claim 16, wherein the polypeptide has an amino acid sequence of SEQ ID NO:2.

18.-26. (Canceled)

27. (Withdrawn) A method of screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a sequence of claim 5, the method comprising:

a) exposing a sample comprising the target polynucleotide to a compound, under conditions suitable for the expression of the target polynucleotide,

b) detecting altered expression of the target polynucleotide, and

c) comparing the expression of the target polynucleotide in the presence of varying amounts of the compound and in the absence of the compound.

28. (Withdrawn) A method of assessing toxicity of a test compound, the method comprising:

a) treating a biological sample containing nucleic acids with the test compound,

b) hybridizing the nucleic acids of the treated biological sample with a probe comprising at least 20 contiguous nucleotides of a polynucleotide of claim 11 under conditions whereby a specific hybridization complex is formed between said probe and a target polynucleotide in the biological

sample, said target polynucleotide comprising a polynucleotide sequence of a polynucleotide of claim 11 or fragment thereof,

c) quantifying the amount of hybridization complex, and

d) comparing the amount of hybridization complex in the treated biological sample with the amount of hybridization complex in an untreated biological sample, wherein a difference in the amount of hybridization complex in the treated biological sample is indicative of toxicity of the test compound.

29.-45. (Canceled)

46. (Previously presented) An isolated polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:4.